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ABSTRACT

An approach is described for decreasing the costs and difficulties associated with providing adequate feedback to the student concerning his interpersonal performance when he performs operational tasks in simulated or actual job situations as part of his training. The computer is used to assist in the process of eliciting appropriate feedback from judges and providing this feedback to the student, both in coordination with videotaped recordings of the student's performance. Computer programs designed to help judges rate interpersonal performance along a variety of dimensions were developed and tested. Although these programs also are suitable for providing feedback to the student, formal tests of this aspect of the process were not conducted in this project. Several potential benefits of the procedures for interpersonal skills training were demonstrated as a result of both the formal and informal tests of the system. (Author/JEG)

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Technical Report: NAVTRAEQUIPCEN IH-308

COMPUTER-ASSISTED JUDGING AND FEEDBACK OF INTERPERSONAL SKILLS

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Training technology in the interpersonal skills area has not kept pace with the training technology that is available in most other skill areas. The deficiencies in interpersonal skills training are especially apparent in "job oriented" instruction, wherein the student performs operational tasks in simulated or actual job situations. A major obstacle to the application of job oriented instruction to this area is the difficulty in providing appropriate feedback to the student concerning his performance in the interpersonal situation. (Contd)

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One of the most popular approaches to satisfying this feedback requirement is to videotape the student in interpersonal situations. Most such efforts, however, fall quite short of providing appropriate feedback and the general failure to demonstrate training benefits from the use of this method can be attributed to this shortcoming. Further, the costs and difficulties associated with providing adequate feedback regarding interpersonal performance apparently have discouraged attempts to do so.

This report presents an approach for decreasing some of these costs and difficulties. This approach uses a computer to assist in the process of eliciting appropriate feedback from judges and providing this feedback to the student, both in coordination with the videotaped recordings of the student's performance. In this regard, computer programs designed to help a judge rate interpersonal performance along a variety of dimensions were developed and tested. Although these programs also are suitable for providing feedback to the student, formal tests of this aspect of the process were not conducted in the present research. Formal, albeit brief, experimental evaluations of the feedback elicitation and development programs were conducted, however.

Several potential benefits of the procedures for interpersonal skills training were demonstrated as a result of both the formal and informal tests of the system.

PREFACE

This project was jointly funded by the Office of Naval Research and the Navy Personnel Research and Development Center.

Many people at Recruit Training Command (RTC), Orlando were very helpful in this project; most notably CTRCS Paul Zetterholm and LCDR William Sullivan, as well as all of the Company Commanders who participated in the videotapes.

Pat Smith was responsible for computer programming, system operation, the collection of experimental data, and many helpful suggestions concerning the design of the program materials.

SUMMARY

Training technology in the interpersonal skills area has not kept pace with the training technology that is available in most other skill areas. The deficiencies in interpersonal skills training are especially apparent in "job oriented" instruction, wherein the student performs operational tasks in simulated or actual job situations. A major obstacle to the application of job oriented instruction to this area is the difficulty in providing appropriate feedback to the student concerning his performance in the interpersonal situation.

One of the most popular approaches to satisfying this feedback requirement is to videotape the student in interpersonal situations. Most such efforts, however, fall quite short of providing appropriate feedback and the general failure to demonstrate training benefits from the use of this method can be attributed to this shortcoming. Further, the costs and difficulties associated with providing adequate feedback regarding interpersonal performance apparently have discouraged attempts to do so.

This report presents an approach for decreasing some of these costs and difficulties. This approach uses a computer to assist in the process of eliciting appropriate feedback from judges and providing this feedback to the student, both in coordination with the videotaped recordings of the student's performance. In this regard, computer programs designed to help a judge rate interpersonal performance along a variety of dimensions were developed and tested. Although these programs also are suitable for providing feedback to the student, formal tests of this aspect of the process were not conducted in the present research. Formal, albeit brief, experimental evaluations of the feedback elicitation and development programs were conducted, however.

Several potential benefits of the procedures for interpersonal skills training were demonstrated as a result of both the formal and informal tests of the system. First, the tasks of eliciting, developing, and delivering feedback appeared to be facilitated by the programs. Evidence for this came mainly from the experiences of project personnel who noted, in developmental tests of the system, that these training tasks were difficult, frustrating, and sometimes even impossible to perform correctly without computer assistance. Also, in the formal evaluations of the computer-assisted methods, judges reported that the work load was "about right," that the task was interesting, and that they understood the task.

Second, the feedback that was made possible by this new technique appeared to be much more useful than the feedback that typically results from other approaches in the area. This conclusion was based on an analytical comparison of the extent to which the feedback of the new programs vs. that of other, non-computer-aided methods, conformed to the characteristics of good feedback.

Third, the computer programs can be used to improve the reliability of ratings of interpersonal performance and, in so doing, improve the validity of the ratings. Although, for a variety of possible reasons, overall rating reliabilities were relatively low, a new computer-aided technique improved the

reliability on one of the two variables (considerate) to which it was applied. This technique provided computer-generated, time-weighted averages of a series of individual ratings of a variable. The reliability resulting from this method was considerably greater than a global rating made by the judge on the variable.

The preliminary nature of this study prevented extensive refinement of the programs and the procedure for their use. For example, the judges were not extensively trained in the use of the computer rating methods, and little was done to assure that they performed conscientiously. Also, more should be done to assure that the functions and formats of the programs are appropriate. These latter improvements await more extensive development and research efforts. These efforts should result in a more complete program of computer aids, after which a more extensive effort to apply and evaluate the programs should be conducted.

The present study demonstrated the probability that a variety of computer programs can enhance interpersonal skills training. The nature of ideal computer programs for this purpose is a subject for further research.

Further research is also needed to determine whether students perform any differently (hopefully better) as a result of this new feedback procedure, and how these changes compare to those occurring under more traditional (i.e., non-computer) training methods. This training effectiveness issue (i.e., how well does the training change performance) should be addressed after additional development and refinement of the new technique. The concern about training validity (i.e., how well does the training improve performance) is a much more thorny problem, since universal agreement on the characteristics and measurement of good leadership does not exist, despite a great body of research on the subject. The new technology presented here is intended to be content free. That is, it should teach the subject matter of interpersonal instruction more efficiently, regardless of the nature or quality of this subject matter. More efficient training strategies are necessary, but not sufficient, conditions to improve interpersonal performance. Improved performance in this area also requires valid subject matter, and this concern was only ancillary to the goals of the present effort.

Finally, once the training effectiveness and validity issues have been resolved, cost-effectiveness issues arise. Cost-effectiveness questions require comparisons of the new technique with other logical approaches to the objectives. It was beyond the scope of this study to develop and evaluate alternate approaches. For this reason, and because the training effectiveness and validity issues have yet to be resolved for the new technique, rigorous efforts to answer cost-effectiveness questions are premature. Nevertheless, assuming the desirability of the functions of the new computer techniques, and comparing these techniques with purely manual operations for performing the same functions, considerable cost savings can be demonstrated.

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SECTION I

INTRODUCTION

The efficiency of an organization depends on the effectiveness of interpersonal communications within it. Typically, little is done to improve performance in this area.

The Naval Training Equipment Center (NAVTRAEQUIPCEN), during the past five years, has been engaged in determining, developing, and evaluating several approaches to the improvement of interpersonal behaviors through the use of a computer. These approaches have mainly been aimed at improving the interpersonal communications abilities of Navy recruit company commanders (CCs) in interactions with their recruits. These earlier approaches are described in other reports.[1,2,3,4,5,6,7,8,9]

One of these approaches involves the use of videotapes to teach interpersonal skills. The computer controls the operation of a videotape player, coordinating the tape with written material presented on a CRT terminal. The tapes consist of both real and role-played interactions between CCs and recruits. The lessons train and test the ability to recognize examples of various interpersonal skills. These videotape lessons follow an extensive set of written CAI lessons which cover the same skills. The video lessons were designed to present the skills in a form which more closely approximates the real operational setting.

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1. Spencer, G. J. and Hausser, D. L.; Blaiwes, A. S. and Weller, D. R. Use of Computer-Assisted Instruction for Interpersonal Skill Training - A Pilot Study, 1975. Technical Report: NAVTRAEQUIPCEN 73-C-0133-1.
2. Cohen, J. L. and Fishbein, M. Development and Research Utilizing the PLATO IV System for Company Commander Behavioral Change Training. August 1975. Technical Report: NAVTRAEQUIPCEN 73-C-0129-1.
3. Hausser, D. L., Blaiwes, A. S., Weller, D. R., and Spencer, G. J. Application of Computer-Assisted Instruction to Interpersonal Skill Training. January 1976. Technical Report: NAVTRAEQUIPCEN 74-C-0100-1.
4. Cohen, J. L. and Fishbein, M. A Field Test of the PLATO IV System for Company Commander Behavioral Change Training. July 1976. Technical Report: NAVTRAEQUIPCEN 74-C-0095-1.
5. Lukas, G., Blaiwes, A. S., and Weller, D. R. Evaluation of Human Relations Training Programs. January 1977. Technical Report: NAVTRAEQUIPCEN 75-C-0076-1.
6. Blaiwes, A. S., Weller, D. R., and Romot, G. Development and Implementation of a Computerized Evaluation and Training System (CETS) at a Recruit Training Command. March 1978. Technical Report: NAVTRAEQUIPCEN IH-300.
7. Weller, D. R. and Blaiwes, A. S. Leadership Dimensions of Navy Recruit Company Commanders and Recruit Morale and Performance. Psychological Reports, 1976, 39, 767-770.
8. Blaiwes, A. S. and Weller, D. R. A Social Simulator: Development and Evaluation. Educational Technology. March 1977, 14-20.
9. Blaiwes, A. S. and Weller, D. R. A Computerized Evaluation and Training System (CETS) for Recruit Training Commands: An Overview. NAVTRAEQUIPCEN, in preparation.

The current research is directed at enlarging the use of videotape in the training of interpersonal skills. An ideal videotape training program would start with the taping of a student in an actual job situation. The tape's contents would then be rated for the performance of the interpersonal skills. Then the student would be given feedback on his/her performance, with special attention to strong and weak areas. Additional training would then be given on appropriate skills. The taping - feedback - training cycle would be repeated until performance was acceptable.

A critical step in the development of this program is the design of a method for accurately, efficiently, and reliably rating interpersonal behavior as seen on videotape. In the effort to develop a better method for rating interpersonal behavior, many aspects of the feedback component also were provided. These are the subjects of this study.

It was decided at the outset that a computer would be used to assist in the rating. Some of the more apparent advantages of using a computer are:

a. Raters' responses can be automatically keyed to the location on the tape where they occur.

b. Raters' responses can be automatically stored and processed.

c. Complex outputs and displays can be quickly produced.

d. All functions of the tape player can be under programmed control.

e. The most effective approaches to videotaped rating can be standardized.

The need for research and development (R&D) on the process of rating, analyzing, and providing feedback on a student's videotaped performance is indicated by the widespread practice of using videotapes for performance feedback in training programs, contrasted with the relatively minor experimental evidence which would recommend their use. This is especially true in the interpersonal skills area.

Most evidence in favor of such use of videotapes appears to be non-quantitative and anecdotal. For example, Kanner[10] reports that instructors become vividly aware of their shortcomings as a result of viewing their performance on videotape which "...is often followed by striking changes in the instructor's teaching behavior.... These insights are often achieved much more rapidly than when someone else, without the benefit of videotape playback, criticizes an instructor's performance." A similar observation was made in an effort to compare videotape and role-playing procedures for teaching job interview skills.[11] It was noted "...that several subjects in the role-playing

10. Kanner, J. H. In a Report of the Third Armed Forces Television Conference. Fort Lee, VA, 17-19 October 1962. Office of The Chief Signal Officer Audio-Visual Communications Directorate, April 1963, p. 14.
11. Venardos, M. G. and Harris, M. B. Job Interview Training with Rehabilitation Clients: A Comparison of Videotape and Role-Playing Procedures. Journal of Applied Psychology, 1973, vol. 58, No. 3, 365-367.

group initially resisted the possibility of their having interview problems, whereas those in the videotape group were quick to detect their own inappropriate behaviors and acknowledge the need for improvement."

More quantified observations, however, do not seem to recommend the use of videotapes so strongly. For example, videotaped performance feedback did not improve group performance in a problem solving situation when used alone; although it did add small improvements when combined with a videotaped model of performance.[12] Similar results were obtained in an experiment which tested the effects of model and feedback videotapes on teachers' use of positive feedback responses to children's behavior.[13] "The findings demonstrated that the combined model and feedback videotape technique and the model videotape technique are effective while the feedback videotape intervention is ineffective in changing teaching behaviors."

Other researchers, noting the cost of videotape procedures, recommend other methods to achieve the training goals. For example, when no difference was found between role-playing and videotape procedures for the job interview training (both being superior to an attention-placebo control), the authors concluded, with some reservation, that: "While videotape is being used increasingly today for teaching various interpersonal skills, such as interviewing, the savings in equipment expense that would result from employing the equally effective procedure of role-playing might suggest that role-playing be the treatment of choice."[14]

Another effort to supplement operational procedures for training instructors at Sheppard Air Force Base with videotaped performance feedback resulted in conclusions as follows: "That those capabilities have potential payoffs is assumed, but it is not clear how those capabilities can properly be applied.... Use of the system as a supervisory tool in the existing school at Sheppard Air Force Base offers no net advantages. The payoffs do not warrant the cost."[15]

Some key words in this latter quotation are "...how . . . (the performance feedback videotapes) can be properly applied." Little seems to be done to improve the quality of the videotaped experience beyond merely allowing the student to view the tape, and even less seems to be known about what can be done to enhance the effectiveness of such training.

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12. Walter, G. A. Effects of Training Inputs on Group Performance. Journal of Applied Psychology, 1975, vol. 60, No. 3, 308-312.
13. Rutherford, R. B. The Effects of a Model Videotape and Feedback Videotapes on the Teaching Styles of Teachers in Training. The Journal of Experimental Education. Fall 1973, vol. 42, No. 1, 64-69.
14. See footnote 10 on page 8.
15. Hays, J. and Pulliam, R. Development and Evaluation of Video Systems for Performance Testing and Student Monitoring. Technical Training Division, Lowery Air Force Base, CO, AFHRL-TR-74-67, July 1974, p. 169.

One significant exception to this statement is a research program on the "interpersonal process recall technique" applied to counseling guidance training. This approach "...consists of recording a counselor trainee and client session followed by an interrupted playback for the participants in separate rooms. During the interrupted playback, the participants are encouraged to recall thoughts and emotions by specially trained interrogators; interrogation sessions are audiorecorded."[16,17]

Some more restricted techniques for "properly applying" the performance feedback videotapes include: (a) using orientating comments for focusing students' perceptions during videotaped-feedback change attempts,[18] and (b) urging students to comment on their own performance and the performance of others in a group.[19]

The thrust of the present research is to extend our knowledge of such techniques and our capabilities for using them for the enhancement of videotaped performance feedback in interpersonal training applications, and especially to determine the contributions to be made by a computer to these processes.

16. Murmin, J. A Report on the Fifth Armed Forces Television Conference, Sheraton-Park Hotel, Washington, DC, 2-3 November 1964. Office of the Chief of Communications-Electronics Pictorial and Audio-Visual Directorate, June 1965, p. 49.
17. Kagan, N. Can Technology Help Us Toward Reliability in Influencing Human Interaction? Educational Technology, Feb. 1973, 44-50.
18. See footnote 11 on page 8.
19. See footnote 10 on page 8.

SECTION II

GENERAL METHODOLOGY

Three important factors in the design of an interpersonal skills rating method are: (1) reliability, (2) ease and convenience of rating, (3) usefulness of resulting ratings. The meanings of the first two items are fairly obvious, but the third requires some elaboration. The principle purpose of an interpersonal skills rating of CCs is to provide them with feedback on their performance which will lead to an improvement of their performance. Therefore, the results of the rating procedure must be easily understood by the CCs, and specific enough so that the CCs will know what steps to take to improve their performance. Also, the feedback must be valid, such that a CC's performance will in fact improve as a result of taking the steps suggested by the feedback. A second purpose of the ratings is to provide information to management for use in decision making and organizational development. Thus, the outputs of the rating procedure must be suitable for this purpose also.

It was decided that a two-step process would be used to design and test the interpersonal skills rating method. In the first step, three different rating methods were devised. These methods were then tested, using a small group of raters. The three factors mentioned above were all used in evaluating these methods. In the second step, a new rating method was devised, incorporating the best features of the preliminary methods. A small group of raters also provided information for evaluating this method.

RATING VARIABLES

The variables to be rated were selected from those isolated during earlier phases of the research. Also considered were performance variables employed in a variety of other interpersonal training and evaluation systems (e.g., Klauss,[20] Fleishman,[21] and Bowers[22]). The particular variables employed here were selected because of their commonality to many of these systems and because they appeared in pilot tests to be more amenable than others to the present rating context. There were three levels of variables chosen: global, skill, and behavior.

GLOBAL LEVEL. At this level, the raters were to judge the overall effectiveness of the CC (how well the CC was meeting the goals of the interaction).

SKILL LEVEL. At this level, the raters were to judge the CC's performance in two skill areas:

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20. Klauss, Rudi. Measuring the Impact on Subordinates of Managers' Interpersonal Communication Styles and Credibility. The Maxwell School of Citizenship and Public Affairs, Syracuse University, TR-2, 1977.
21. Fleishman, E. A. Twenty Years of Consideration and Structure in E. A. Fleishman and J. G. Hunt (Eds.) Current Developments in the Study of Leadership. Carbondale: Southern Illinois University Press, 1973.
22. Bowers, D. G. and Seashore, S. E. Predicting Organizational Effectiveness with a Four-Factor Theory of Leadership. Administrative Science Quarterly, Vol. II, No. 2, Sept. 1966, pp 238-263.

a. Considerate - To what extent does the CC treat the recruit like a human being?

b. Clear - How clear is the CC's communication with the recruit?

BEHAVIOR LEVEL. At this level, the raters were to judge the CC's performance of certain behaviors (both positive and negative). The sixteen behaviors selected fall under positive and negative representations of the two skill areas:

a. Considerate - Positive

(1) The CC asked the recruit how he/she felt about the situation.

(2) The CC expressed confidence in the recruit's abilities.

(3) The CC was patient with the recruit.

(4) The CC used the recruit's name.

b. Considerate - Negative

(1) The CC showed disinterest in the recruit's feelings.

(2) The CC belittled the recruit's abilities.

(3) The CC was impatient with the recruit.

(4) The CC used abusive names.

c. Clear - Positive

(1) The CC gave specific details.

(2) The CC encouraged recruits to ask questions.

(3) The CC asked questions of the recruits to see if they understood.

(4) The CC gave reasons to show the relevance of what he/she was saying.

d. Clear - Negative

(1) The CC was vague.

(2) The CC discouraged questions.

(3) The CC failed to question the recruits for their understanding.

(4) The CC failed to give reasons although the situation called for it.

EXPERIMENTAL APPARATUS

This experiment used a Nova 3/12 minicomputer, a Sony cassette videotape player, a Sony T.V. monitor, a Tektronix display terminal, and a Data General printer. The videotape recorder was connected to the computer through a specially designed interface which allowed the computer to control all of the functions of the player. The subjects received instructions and feedback on the terminal, and made responses on the terminal keyboard. The printer was used for data output.

Control of the videotape player was accomplished through timing. For example, it was necessary to determine the precise spot on the tape which was being shown when a subject made a response, so that the tape could be stopped automatically at the same spot on the next showing. To do this, the computer kept track of the elapsed time into the segment when each response was made. On subsequent showings, when this elapsed time was reached, the computer would automatically activate the "pause" mode on the player, causing the tape to stop. When the subject completed his inputs at this spot, a terminal keypress would cause the computer to activate the "play" mode, and the tape would continue.

SECTION III

PRELIMINARY STUDY

The purpose of the preliminary study was to determine which of the candidate rating methods developed for this study, or which features of these methods, were to be retained for further study.

RATING CONDITIONS

A number of different methods for rating interpersonal skills with computer assistance were conceived. These were narrowed down to three candidate methods which utilized those features which seemed to be most promising and which could be implemented within the resources of this project. Some promising features were not included at this time due to limitations in the experimental equipment. For example, random access to tape segments would require signals from the tape player to the computer, and at present the signal flow is only from the computer to the tape player. The reverse is, however, technically feasible. Each of the three methods yielded scores on the two skills, but different procedures were used to arrive at these scores. Each method also yielded scores on various other rating variables.

METHOD A. While viewing a videotape of an interaction between a recruit and a CC, the rater made a continuous rating of the overall effectiveness of the CC. This was done by pressing keys 1-5 on the computer terminal (1 = totally ineffective, 5 = very effective) whenever the rater noticed a change in the overall effectiveness of the CC's performance. The computer calculated a time-weighted mean for these ratings in the overall effectiveness category, which comprised the "computer overall" score. Following this, the rater viewed the same tape segment again. This time, the tape stopped at each point where the rater changed his/her rating during the first viewing, and the rater was asked to report whether he/she had observed the CC being clear or considerate during the prior segment. The rater also had an opportunity to type in a comment at this time. Following this viewing, the computer displayed the total number of times each skill had been observed and the rater made a summary evaluation for each skill, as well as a summary evaluation of overall effectiveness (providing the "judge clear", "judge considerate", and "judge overall" scores).

METHOD B. While viewing a videotaped interaction between a CC and a recruit, the rater made a continuous rating of the CC's performance on one of the two skills (by pressing keys 1-5). The computer provided time-weighted means for these scores, resulting in the "computer clear" and "computer considerate" scores. Following this, the rater viewed the same segment again. This time, the tape stopped at each point where the rater changed his/her rating during the first viewing, and the rater was asked to select the behaviors which he/she had seen during the previous segment (from the eight behaviors under the skill in question). At the end of this viewing, the total number of observations of each behavior was displayed, and the rater made a summary rating for the skill. Following this, the entire procedure was repeated for the other skill. Finally, the rater made an overall effectiveness rating.

METHOD C. While viewing a videotaped interaction between a CC and a recruit, the rater pressed a key on the terminal each time he/she observed one of the 16 behaviors. Following this, the rater viewed the same segment again. This time, the tape stopped at each point where the rater had marked a behavior. The rater then selected the behavior which he/she had seen. Following this viewing, the computer displayed the total number of observations of each behavior, and the rater entered a summary score for each skill. Finally, the rater entered an overall effectiveness rating.

The actual instructions to the raters are in Appendix A.

VIDEOTAPES

Three videotape segments were selected for the preliminary study. Each involved a CC interacting with a single recruit. One of the segments was a real-life interaction. The other two were role-played situations, with two CCs playing the parts of CC and recruit. The role-playing scenarios are in Appendix B. The first two scenarios are the ones actually used in the study. Several role-plays were videotaped, and the two most appropriate were selected. Also included in Appendix B is an example of a behavioral checklist, which accompanies the second role-play. Such checklists were used in CC school classes to evaluate role-players and stimulate class discussion. The checklists were provided only for maximizing the benefits of the role-plays in CC school classes, and were not otherwise involved in the present study. Various personnel at the Recruit Training Command, Orlando viewed all of the taped segments and verified that the content and performances were realistic.

PROCEDURE

The subjects were six students (two female, four male) from Florida Technological University. All of these students were psychology majors with some experience with behavioral rating techniques. Each subject used each of the three rating methods. A given tape was always rated by the same method by all subjects because representing all method X tape segment conditions would have resulted in only two subjects per condition, which would be insufficient to compare the response characteristics (where the tape is stopped, what ratings are given at these points, etc.) of different subjects under similar conditions.

Following each method, the subjects were given a questionnaire on their opinions of that method. The questionnaire is reproduced in Appendix C. Each subject was also interviewed in depth by the experimenters.

Outputs from the computer provided a record of all subject responses. In addition, the computer provided mean ratings for methods A and B, and graphical displays of subject responses for all methods. Sample outputs are contained in Appendix D.

RESULTS

The results of the preliminary study are organized according to the three factors mentioned earlier; reliability, ease of use, and usefulness of ratings.

RELIABILITY. The standard deviation of each score was used as an indication of reliability. The smaller the standard deviation, the greater the agreement across judges, and, therefore, the greater the reliability. The standard deviations are presented in Table 1. Method C showed the highest variability on the three measures which were common to all methods (judge considerate, judge clear, judge overall). The variabilities of methods A and B were quite similar.

EASE OF USE. Data on ease of use came from the opinion questionnaire, items 1-3. On all three items (work load, understanding, interest) there were no significant or important differences across methods. The overall means were: work load - 2.0 ("about right"); understanding - 1.4 (between "not at all confused" and "slightly confused"); interest - 2.8 ("slightly interesting"). On the item "which method do you prefer," two subjects chose A, two chose B, and two chose C. Both subjects who chose A stated that the option to type in comments was a major factor in their choice.

USEFULNESS OF RATINGS. All three methods provided ratings by the judge of the two skills and overall effectiveness. Methods B and C also provided lists of the behaviors observed. All of this should be useful feedback to CCs. Method B provided a computer-processed, time-weighted average score for each of the two skills, while method A provided such a score for overall effectiveness. These computer-processed scores would serve as useful checks on the judges' opinions.

TABLE 1. SCORE STANDARD DEVIATIONS

VARIABLE	METHOD A	METHOD B	METHOD C
Judge considerate	.55	.51	.81
Judge clear	.21	.33	.87
Judge overall	.24	.23	.93
Computer considerate	-	.57	-
Computer clear	-	.51	-
Computer overall	.21	-	-

SECTION IV

FOLLOW-ON STUDY

NEW RATING CONDITION

Based on the results from the preliminary study, a new rating method was designed. It was most similar to method B, in that skills were rated first, followed by selection of behaviors. The method of selection of behaviors first (method C) was rejected because of its low reliability. Method A was not favored because it did not yield the behavior listings, which were considered to be useful. However, the comment option of method A was retained.

In the new method, the judge first viewed the segment without making responses. The tape was then reshown, and the judge pressed a key on the terminal every time he/she saw an instance of a considerate behavior. This keypress stopped the tape. The judge gave a rating (1-5) to indicate the level of considerate behavior at this point on the tape. Following this, the judge selected the considerate behaviors observed. At this time, the judge was also given the opportunity to type in any additional comments. The tape then restarted, and the same process continued.

At the end of the segment, the judge entered an overall rating for considerate (1-5). Then the tape was reshown, and the same procedure was followed for the skill clear. Finally, the judge entered an overall, global rating. Sample outputs for this new method are included in Appendix D.

PROCEDURE

The subjects were three students (one female, two male) from Florida Technological University. All of these students were psychology majors, and familiar with behavioral rating techniques. A fourth subject participated, but experienced considerable difficulty with the experiment, so the data was not used (the subject was foreign-born and had some trouble with English). The tapes used were the same as in the preliminary study. Each subject rated all three tape segments using the new method. After rating the tapes, each subject filled out the first part of the opinion questionnaire ("questions for each method").

RESULTS

RELIABILITY. To assess the reliability of this method, the intraclass correlation coefficient (as described by Guilford[23]) was used. This is a measure of the degree to which different raters agree on the rating of a given variable, across a number of ratees. Table 2 presents the intraclass correlation coefficients for all variables, along with the ratings.

The reliabilities of the two considerate scores were low, with the computer-averaged score showing a higher reliability than the judges' score (intraclass correlation coefficients in excess of .90 are not uncommon in this

23. Guilford, J. P. Psychometric Methods. McGraw-Hill, 1954, 395-397.

TABLE 2. RATINGS AND INTRACLASS CORRELATION COEFFICIENTS

	SEGMENT 1			SEGMENT 2			SEGMENT 3			INTRACLASS
	RATER 1	RATER 2	RATER 3	RATER 1	RATER 2	RATER 3	RATER 1	RATER 2	RATER 3	CORRELATION COEFFICIENT
Judge considerate	2.50	5.00	4.00	2.00	2.20	4.00	1.70	4.30	5.00	.26
Computer considerate	2.82	4.48	3.72	2.12	3.93	3.95	1.84	4.24	3.51	.45
Judge clear	4.00	5.00	4.30	3.00	3.20	2.80	2.70	5.00	2.90	.79
Computer clear	3.76	5.00	3.96	2.94	3.20	2.81	2.73	5.00	3.37	.78
Judge overall	3.50	5.00	4.00	2.70	1.50	3.00	2.50	4.80	3.00	.55

type of application). The reliabilities of the clear scores were moderate, and equal across the two types. The reliability of the overall score fell between those of the clear and considerate scores.

There are three factors which might have contributed to the unimpressive reliabilities. First, the raters were given little training and practice in the use of the method. It is reasonable to assume that more training in the use of the method and the meaning of the variables would improve the reliability of the ratings. This is especially true of considerate, which has a less obvious meaning than clear.

A second factor contributing to low reliability is the lack of variability in the performance of the CCs who were taped. All of the CCs were attempting to do their best, and they naturally avoided any obviously unclear or inconsiderate behaviors. No attempt was made to role play a "bad" CC. The inclusion of a clearly bad performance would have increased the variance of both variables, and almost certainly would have improved reliability.

Finally, intrinsic characteristics of the rating variable (such as the ease of applying it) would affect its reliability. The emphasis in the current study was on how to facilitate the process of judging and providing feedback on interpersonal performance, regardless of the particular aspect of performance that is being judged or fed back. Thus, relatively minor consideration was given to the basic reliability of the rating variables in this context. The present techniques can, at best, allow the maximum reliabilities inherent to a rating variable to be manifested in the ratings. If these inherent reliabilities are low, the manifest reliabilities will also be low, no matter how the ratings are accomplished. For example, the computer time-weighted method contributed considerably to the reliability of the considerate variable (the coefficient increased from .26 to .45). Thus, the computer method is considered to be of benefit to ratings of considerateness in spite of the relatively low reliability of those ratings. Studies are needed to determine rating variable characteristics that are conducive to good reliability.

EASE OF USE. These results come from the opinion questionnaire. On the "work load" item, all subjects reported that the work load was "about right." On the "interest" item, two subjects selected "somewhat interesting" and one selected "very interesting." On the "understanding" item, all subjects reported that they were "not at all confused." Therefore, it was concluded that this method was quite acceptable as regards ease of use.

USEFULNESS OF RATINGS. This method included all important features of the three preliminary methods. It yielded a judge's average for each variable, a computer average for each variable, an overall judge's average, a list of behaviors observed, and judge's comments. All three subjects freely used the comment option. All ratings and comments were keyed to the points in the tape where the relevant behavior occurred as well as an overall summary at the end of the tape recording. The availability of hard-copy printouts of all feedback information would enable the student to compare his performance across performance sessions.

It is therefore concluded that this method would be very useful, both for feedback to CCs and managerial purposes.

SECTION V

DISCUSSION

Previous quantitative research on the use of videotape as a feedback and evaluation tool in the interpersonal skills area has not generally yielded encouraging results. A possible cause of this lack of positive results is the failure to develop sophisticated and/or standardized methods for applying videotape in this area. The current research attempted to take a step in that direction by developing a technique for rating interpersonal behavior as seen on videotape, with the aid of a computer.

The technique designed in this study provides detailed information on interpersonal performance which should be highly useful in a variety of ways. The most obvious use is that of providing performance feedback to the subjects of the tape. This technique appears to be simple to use, and should not require extensive rater training. One questionable area is that of reliability, and it is likely that further development would improve the reliability of this technique substantially. Further, the improved reliability of the considerate variable as a result of the computer technology provides encouraging evidence that additional R&D on these issues can contribute importantly to the area.

The contribution of the computer to this technique was a major area of concern. If desirable judging and feedback objectives (as represented in this study) could be achieved equally well (or better) without computer assistance, the expense of the computer would not be justified. However, after considering the probable reduction in effectiveness and increment in costs that would be associated with non-computer administration of the technique, it was decided that computer assistance is cost-effective.

The cost of the computer equipment used in this study was approximately $30,000. However, this equipment performed many functions in addition to those related to this study. It is estimated that a minimum system capable of administering the technique described here would cost less than $2,000.

Using a non-computer technique, the rater would proceed in much the same manner as with the computer, except that he/she would stop and start the tape player manually, and record responses on paper instead of typing them on a keyboard. The major additional task would be to record the exact point on the tape where the responses were made. This would require the rater to consult a timer or counter at each point where a response was made, and record the reading. At the end of the rating process, the time-weighted averages would have to be manually calculated.

This procedure is more difficult to accomplish than it may first appear. The major source of difficulty is that the judge is burdened with a host of "housekeeping" tasks (i.e., stopping the tape at the appropriate points, recording times, calculating scores) at the same general time as when the taped performance is to be rated. The process of rating interpersonal performance requires intense concentration such that even minor additional duties can be seriously disruptive.

Due to the early stage of development of the computer programs and the lack of definition of other means for performing the tasks, no attempt was made to rigorously compare the various computer capabilities with other, non-computer methods. Anecdotal evidence on this point. however, was obtained during developmental testing of the programs. In these tests, the present authors performed various rating and feedback tasks manually in order to evaluate the appropriateness of candidate programs for computer implementation. It became quite apparent from these efforts that some tasks could not be performed at all manually with only one operator, and some of these tasks could not be performed satisfactorily even with two operators. These tasks typically required so much time and concentration to perform that the operator continually lost his main train of thought and had to repeat previous operations to regain it.

The operations which were most disruptive to the total task were the computation of rating scores and the control of videotape presentation. Also, these operations were never performed as accurately manually as they were by computer control and their accomplishment was associated with frustration and tedium. These problems were largely resolved through use of computer support. Thus, the computer programs increased the likelihood that the operators not only would be able to properly perform the tasks, but also that they would be willing and motivated to perform them properly.

The greatest advantages of computer assistance in the current application, however, become apparent when one considers the process of giving feedback to a person on his/her rated performance. Although the feedback mode was not implemented during this study, the provision of feedback is the principal justification for developing the rating procedure. With computer assistance, the ratee would watch his/her performance on tape, and the computer would automatically stop at each point where the rater had made a response. The ratee would then be presented with a rating on the skill in question, a list of behaviors noted by the judge as relating to that skill, and any other rater comments.

Without computer control, the ratee's attention to the tape and the feedback would be seriously disrupted by the need to attend to the manual operation of the tape player and timer, and coordination of the delivery of the feedback. If another person were to operate the tape player, twice the man-hours would be required for the feedback process, and the added expense would soon outweigh the cost of computer control in any operational situation. There is also a privacy factor to consider, since the ratee might be more ill at ease with another person present.

Thus, the system performed most all of the important feedback functions which would be performed by a skillful human instructor, and at a lower cost. In addition, the computer system would perform these functions more accurately, reliably, objectively, frequently, patiently, comprehensively, and with greater potential for modification and improvement than could be reasonably expected from a human instructor. Thus, because human instructors cannot, will not and/or do not properly perform these feedback functions, the present system would provide feedback that is far superior to that typically provided in interpersonal skills training programs.

The current computer capabilities, and additional capabilities suggested by this study, could provide the means for implementing a variety of other techniques for aiding the judging process that would go well beyond the complexity of this preliminary demonstration. The computer capabilities demonstrated or suggested in this study provide flexibility to explore potentially useful judging and feedback techniques which would be impossible to accomplish by other means.

Additional functions, not implemented in the current study, but which the computer could readily perform, involve the automatic storage and processing of data on the performance of ratees. For example, a ratee could be given feedback on how his performance compares with all other persons rated with the system. Alternately, the ratings of several raters could be combined to provide feedback from different sources. Or, the percent of time that a ratee exhibited a given characteristic could be computed. Another function which was briefly mentioned is random access to tape positions. The tape player could be made to send position information to the computer, which would allow the computer to locate any point on the tape automatically (using rewind and fast forward modes, as well as play mode). As an example of the use of this function, a ratee could choose to review only those portions of a tape where he/she was rated as being inconsiderate. The computer could control the player such that only these segments were shown, fast forwarding between them so that intervening material could be skipped.

In conclusion, it seems apparent that further research on the videotape rating technique developed in this study is warranted, and that the use of a computer to assist in this technique is effective and efficient.

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APPENDIX A

INSTRUCTIONS TO RATERS

INTRODUCTION

In this study, you will be rating the performance of persons in interpersonal situations (as seen on videotape). The persons you will be rating are Navy Company Commanders. It is their job to lead companies of 80 new recruits through eight weeks of basic training. The sections of tape which you will see involve interactions between Company Commanders (CCs) and their recruits. Some of these interactions are role-played and some are taken from real-life situations.

VARIABLES

The variables on which you will be rating the CCs fall into three levels:

1. OVERALL EFFECTIVENESS LEVEL - How effective is the CC in interacting with the recruit?

2. SKILL LEVEL - How well does the CC perform certain skills? The skills you will be rating are:

   CONSIDERATE - To what extent does the CC treat the recruit like a human being?

   CLEAR - How clear is the CC's communication with the recruit?

3. BEHAVIOR LEVEL - How well is the CC performing certain behaviors? The behaviors which you will be looking for fall under the two skills above:

   CONSIDERATE - POSITIVE

   1. The CC asked the recruit how he/she felt about the situation.
   2. The CC expressed confidence in the recruit's abilities.
   3. The CC was patient with the recruit.
   4. The CC used the recruit's name.

   CONSIDERATE - NEGATIVE

   1. The CC showed disinterest in the recruit's feelings.
   2. The CC belittled the recruits abilities.
   3. The CC was impatient with the recruit.
   4. The CC used abusive names.

   CLEAR - POSITIVE

   1. The CC gave specific details.
   2. The CC encouraged recruits to ask questions.
   3. The CC asked questions of recruits to see if they understood.
   4. The CC gave reasons to show the relevance of what he/she was saying.

   CLEAR - NEGATIVE

   1. The CC was vague.
   2. The CC discouraged questions.
   3. The CC failed to question the recruits for their understanding.
   4. The CC failed to give reasons although the situation called for it.

Please study these variables so that you will be familiar with them as you rate the tapes. Keep this sheet handy to refer to.

RATING METHOD A

1. You will see one of the segments which you viewed previously, in which one CC interacts with two different recruits. As you watch, you will make a continual rating of the OVERALL EFFECTIVENESS of the CC's performance. You will do this by pressing keys 1 - 5 on the terminal.

   Key 1 - the CC is totally ineffective
   Key 2 - the CC is somewhat ineffective
   Key 3 - the CC is neither effective nor ineffective
   Key 4 - the CC is somewhat effective
   Key 5 - the CC is very effective

   For example, if you feel that the CC is "somewhat effective" at a given point in the tape, you will press 4. The computer will continue to record a rating of 4 until you press another key. You should change your key selection every time your opinion changes. The tape will start with key 3 in effect. Make your first response when you have enough information to decide how effectively the CC is performing. Do not press any keys while the recruit is speaking.

2. You will watch the segment again. This time the tape will stop at each point where you changed your rating in the previous viewing. When it stops, you will be asked if your change in rating was caused by the CC's performance in the CLEAR or CONSIDERATE area. You will also have an opportunity to type in a comment on the CC's performance.

3. After the second showing, the computer will display the number of times you saw each skill. You will then give the CC a summary rating on each skill, as well as an overall rating.

RATING METHOD B

1. You will see one of the segments which you viewed previously. As you watch, you will make a continual rating of the CC's performance on one of the two skills. You will do this by pressing keys 1 - 5 on the terminal.

   Key 1 - the CC is performing very poorly on the skill
   Key 2 - the CC is performing poorly on the skill
   Key 3 - the CC is performing at an average level on the skill
   Key 4 - the CC is performing well on the skill
   Key 5 - the CC is performing very well on the skill

   For example, if you see that the CC is performing well on the skill at a certain point on the tape, you will press 4. The computer will continue to record a rating of 4 until you press another key. You should change your key selection every time your opinion changes. The tape will start with key 3 in effect. Make your first response when you have enough information to decide how effectively the CC is performing. Do not press any keys while the recruit is speaking.

2. You will watch the segment again. This time, the tape will stop at each point where you changed your rating in the previous viewing. When it stops, you will select the behaviors which caused you to change your rating.

3. At the end of the second viewing, the total number of observations of each behavior will be displayed. You will then give the CC an overall rating on the skill.

4. Steps 1 - 3 will be repeated for the second skill.

5. You will give the CC an overall effectiveness rating.

RATING METHOD C

1. You will see one of the segments which you viewed previously. As you watch, you will press the space bar every time you notice one of the behaviors being performed. Keep the list of behaviors handy so that you can refer to it. The tape will not stop during this run-through.

2. You will watch the segment again. This time the tape will stop at each point where you pressed the space bar. When it stops, you will select the behaviors which you observed.

3. At the end of the second viewing, the total number of observations of each behavior will be displayed. You will then give the CC an overall rating for each skill.

4. You will give the CC an overall effectiveness rating.

APPENDIX B

ROLE-PLAY SCENARIOS

ROLE-PLAYING EXERCISE

COMPANY COMMANDER

It is the 4-2 day of training. Recruit Wilson has been having serious problems throughout training, mainly with MED inspections. It has been decided that Wilson will go to T.U. 4013 (fold and stow). Wilson will go to the Division office at 0800 tomorrow; then will return to the barracks, pack his (her) gear, and go to T.U. 4013. Generally, recruits stay in T.U. 4013 for two to ten days, then go to a T.U. which is at the day of training where they left their original T.U.

Recruit Wilson has never been a disciplinary problem. Wilson has always tried hard, but seems a little "slow" and has been overwhelmed by all of the things that need to be learned at RTC. It is likely that, with the extra training in T.U. 4013, Wilson will be able to make it through RTC.

Now you need to tell Wilson what has been decided. Think about what you want to say; and when you are ready, begin.

ROLE-PLAYING EXERCISE

RECRUIT

You have just been called to the CC's office. You expect that this has something to do with your poor performance on inspections. You are very worried that you may be kicked out of the Navy, because you would really like to stay in and make a career of it.

Figure B-1. Role-Play #1

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ROLE-PLAYING EXERCISE

RCPO

You are an RCPO at RTC Orlando. CPO Allen (substitute name of person playing CC role) has been the CC in your company since its formation four weeks ago.

Everything seemed to be going along pretty well for the first couple weeks of training. For the past two weeks, however, the company has been falling apart and the CC won't do anything to stop it.

The company scores on the last inspection (i.e., 8 discrepancies in personnel, 13 in locker) were way down from the previous inspections (4 in personnel, 7 in locker); there has been an increase in street marks in the last week; and the DPO had to establish order in the barracks twice in the last two weeks.

You feel that these problems are due mainly to the attitude and performance of the CC. Recently, the CC is expecting you to do a lot of things that seem to be his job. You don't think it's fair of him to expect you to run the company practically on your own. Many problems are arising that you don't have the time or ability to handle. You're not sure what is expected of you and the other RPOs feel the same way.

Many of the recruits also are complaining about the management of the company. Most recruits agree that: (a) the CC should be around more to watch over things; (b) he is not interested in the company anymore; (c) he is concerned only about winning flags with the least possible effort from him; (d) he has little confidence in their ability to perform well; and (e) much of recruit training is a waste of time.

When you have tried to tell the CC about these problems, he becomes angry, throws the blame on you, and shows no interest in changing his ways. It is quite upsetting to be yelled at for problems that are the CC's fault, especially when you have been killing yourself to run the company and the CC will take no responsibility for the problems.

You have decided that maybe it's better not to talk to the CC about these problems. You tune him out when he blames you for the problems. Until he shows that he will meet the problems more reasonably, you decided to play down your discussions with him. Instead of talking with him about the problems, you are sending as many of the problem cases as you can to the CC. This way, he will be able to see first hand what you're up against and it will force him to become more involved with the company again.

However, you would like to be able to discuss these matters with the CC. Thus, if (and only if) he shows signs that you can trust him to be more reasonable and considerate will you tell him what you think.

Figure B-2. Role-Play #2

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ROLE-PLAYING EXERCISE

CC

You are a CC at RTC, Orlando. Bob Sanford (substitute name of person playing RCPO) has been the RCPO in your company since its formation four weeks ago.

RCPO Sanford seemed to be doing a satisfactory job for the first three weeks of training. However, there has been some evidence in the past week to suggest that the RCPO is not doing an adequate job. This evidence was obtained from the performance of the company and observations of and conversations with the RCPO and other members of the company.

The company scores on the last inspection (i.e., 8 discrepancies in personnel, 13 in locker) were way down from the previous inspections (4 in personnel, 7 in locker); there has been an increase in street marks in the last week; and the DPO had to establish order in the barracks twice in the last two weeks.

You feel that these problems are due mainly to the attitudes and performance of the RCPO. The problems began soon after you decided to stop "baby-sitting" for the recruits and to allow them to take on more of the responsibility for running themselves. The RCPO seems to be reluctant to take on the added responsibility. He is sending many problems to you that he and the other recruits ought to be resolving for themselves. You have been sending these problems right back to the RCPO. In fact, you might have been sending back more than usual to the RCPO just to give him the idea that he is not going to get out of work by sending it to you.

The thing that upsets you most is that the RCPO appears to be creating poor attitudes in the rest of the company with his complaints about you.

You have noticed that something is disturbing the RCPO in his recent interactions with you. Although you are not sure exactly what it is, you feel that either he is ashamed of his poor showing recently as an RCPO or he might have personal problems. He is quieter with you than usual and he becomes emotionally upset when you try to instruct him on how to run the company. When he is not upset, he appears to be bored and unconcerned about what you say. Sometimes he even claims you never told him some things when you know you have.

You don't want to return to "babysitting" for the company. You have decided to make one more effort to straighten out the RCPO, before you replace him. You don't want to replace him because he has good potential and also because it might demoralize the company, but you will if he doesn't come around and show a better attitude in your next discussion with him. You want to do all you can in this meeting that will increase your confidence that the RCPO will start taking some positive actions to improve the situation and at the same time improve the working relationship between you and him. If all your efforts in this meeting do not leave you confident that the difficulties in the company will improve, you have decided to relieve the RCPO on the spot, and you will proceed to do so.

Figure B-2. Role-Play #2 (Contd)

Behavioral Checklist

Concrete:
+ gave details of what RCPO's job consists of
+ gave details in feedback about how well RCPO is doing his job
+ gave details in instruction about what the particular problems are and how the RCPO should handle them:

(Problems are: (a) RCPO sending CC too many problems; (b) low inspection scores; (c) RCPO talking against CC; (d) TU has poor attitudes; (e) DPO needed to establish order; (f) RCPO not his usual self (quieter, upset, unmotivated) (g) communication problem (with RCPO).)

Relevant:
+ gave good reasons for allowing the TU to run itself and gave good reasons for the benefits of recruit training in general
+ told how running the TU will benefit the RCPO

Human:
+ admitted that he might not have given enough help with the company
+ showed that he is interested in the recruits' welfare
+ told how he feels about the current problems with the company, RTC, etc.
+ admitted that he does not know enough about the problems to offer the best help
+ put the RCPO at ease with some humor, expressions of personal experiences, etc.
+ showed he is interested in RCPO's welfare
+ used words "we", "us", etc.

Considerate:
+ expressed confidence in RCPO's ability to do the job
+ asked RCPO how he and others feel about him, RTC, problems in the company, etc.
+ did not become unduely angry or yell at RCPO
+ told RCPO exactly what he planned to do regarding relieving him and how he thinks the problems are due to the RCPO's performance

Figure B-2. Role-Play #2 (Contd)

Set Expectations: + told RCPO the kinds of problems that he will most likely encounter at this stage of training

Timely: + told RCPO what are the most important things to do and what may be less important

+ repeated important information often, summarized it well, or otherwise made sure RCPO would remember it

Aware: + observed, questioned, and probed the RCPO for his understanding of what was said

Figure B-2. Role-Play #2 (Contd)

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ROLE-PLAYING EXERCISE

RECRUIT

You are recruit Bradford in TU 150 which is in the 2 - 4 day of training. Recently, you have been having some trouble relating to your section leader, RPO Sharkey. But this morning he jumped all over you for losing a point in the last inspection. When you told him that he showed you the wrong way to fold his shirt that he lost the point on, he became extremely offensive and started shouting and swearing about how he is going to "take care of you" if you try to blame him for your mistakes. You felt this was a physical threat that you didn't have to take, so you went to RCPO Cook to tell him about it. Cook right away started to plan out what to say to CC Altman about the incident, which bothered you because you didn't want to make such a big thing out of it. But since RCPO Cook was so much in favor of it, you felt you had to go along with his plan.

So you and RCPO Cook got your story together (allow time for this) and went to see CC Altman.

You are just starting to discuss this matter with CC Altman as the role play begins.

CC

You are CC Altman in TU 150. Today, on the 2 - 4 day of training, you were approached by recruit Bradford and RCPO Cook from your company. Bradford reported that his section leader, Sharkey, maltreated him. Up to now, RPO Sharkey seemed to be doing fine. However, you are concerned about personal conflicts that you have noticed among recruits that you feel are decreasing motivation in the Training Unit and probably were responsible for the poor showing on the last inspection. You told the RCPO to watch for these conflicts and to try to improve the team spirit of the company. You think that this incident is an example of these conflicts, so you are eager to get to the bottom of it.

You are just starting to discuss this matter with Bradford and Cook as the role play begins.

RPO

You are RPO Sharkey, section leader in TU 150. You woke up to a particularly bad day today -- 2 - 4 day of training. You were just out of bed when RCPO Cook was all over you about two recruits in your section who lost points in the last inspection. He said you better get it together or you won't be section leader for very long.

Figure B-3. Role-Play #3

RPO (Contd)

RCPO Cook has been out to get you since the company formed and you know he is just looking for a chance to get you replaced. This is especially upsetting because everyone at home is very proud that you were chosen section leader. In fact, you just received a letter from your father, who is very sick, in which he said how happy it would make him to be able to see you graduate as an RPO. You have been telling other recruits that you will get RCPO Cook replaced before he does it to you. Most of the other recruits agree with you that Cook should be replaced, but say he has the CC under his thumb and that you don't have a chance. You feel that Cook is not a good RCPO because of the abusive manner in which he deals with people. You really think the company would be a lot better off without RCPO Cook.

RCPO Cook bothered you so much that morning that when recruit Bradford started to blame you for his mess-up on the inspection, you blew your top and yelled at him a lot. He said he wasn't going to take this from you and went to see RCPO Cook about it.

You know that Cook and Bradford went to the CC's office to talk about the matter. You're afraid that the CC won't understand that you're doing as well as anyone else and that RCPO Cook is just using this incident to get you. You're getting your story together as you wait to hear what happens, because you know this could be a real problem for you.

(RPO should wait in another room.)

Figure B-3. Role-Play #3 (Contd)

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APPENDIX C

QUESTIONNAIRE

The process of evaluation in the interpersonal skills area involves the performer being judged and informed about how well he/she is doing on the job. The general purpose of this study is to determine how the computer might help to accomplish some of these evaluation and feedback tasks. Your honest and thoughtful answers to the following questions are critical to this study and will be appreciated.

Questions for Each Method

1. I felt that the work load in this method was:

   a. much too heavy
   b. somewhat too heavy
   c. slightly too heavy
   d. about right
   e. too light

2. Using this method, I was:

   a. very confused about what I was supposed to be doing
   b. somewhat confused about what I was supposed to be doing
   c. slightly confused about what I was supposed to be doing
   d. not at all confused about what I was supposed to be doing

3. I found this method:

   a. very interesting
   b. somewhat interesting
   c. slightly interesting
   d. boring

4. Compared with other ways for describing and evaluating interpersonal performance that I can think of, this method was:

   a. much more useful
   b. more useful
   c. neither more nor less useful
   d. less useful
   e. much less useful

5. Please describe any modifications to this method which you think might make it more useful:

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Final Questions

1. The basic idea of using a computer to help a person evaluate videotaped interpersonal performance is:

   a. nonsense
   b. probably not worth pursuing
   c. possibly not worth pursuing
   d. probably worth pursuing
   e. definitely worth pursuing

2. Which of the methods did you prefer? Why?

3. What did you like most and least about each method?

   A - most

   least

   B - most

   least

   C - most

   least

4. Please write below any comments which might help us in this study:

```
        FROM                    TO                      KEY
    0 MIN 0 SEC          0 MIN 33 SEC                    3

***COMMENTS***

NONE

***SKILLS EXHIBITED THIS SEGMENT***

CLEAR
-------------------------------------------------------------------------

        FROM                    TO                      KEY
    0 MIN 33 SEC         0 MIN 48 SEC                    4

***COMMENTS***

THE CC THREATENED THE RECRUIT

***SKILLS EXHIBITED THIS SEGMENT***

CONSIDERATE
-------------------------------------------------------------------------

        FROM                    TO                      KEY
    0 MIN 48 SEC         3 MIN 50 SEC                    2

***COMMENTS***

NONE

***SKILLS EXHIBITED THIS SEGMENT***

CONSIDERATE     CLEAR
-------------------------------------------------------------------------

        FROM                    TO                      KEY
    3 MIN 50 SEC         5 MIN 00 SEC                    4

***COMMENTS***

EXPRESSED A LOT OF CONCERN FOR THE RECRUIT AS A PERSON
AND EXPRESSED CONFIDENCE IN THE RECRUITS ABILITIES

***SKILLS EXHIBITED THIS SEGMENT***

CONSIDERATE     CLEAR
-------------------------------------------------------------------------
```

Figure D-1. Method "A" Output

CALCULATED VTR EFFECTIVENESS AVERAGE----3.550
JUDGES SELECTED EFFECTIVENESS AVERAGE----4.000

SKILL	OBSERVATIONS	EFFECTIVENESS AVERAGE
CONSIDERATE	3	4.500
CLEAR	3	4.000

Figure D-1. Method "A" Output (Contd)

40

```
EVALUATED SKILL IS CONSIDERATE

        FROM                    TO                    KEY
    0 MIN 0 SEC           0 MIN 55 SEC                3

***BEHAVIORS EXHIBITED THIS SEGMENT***

7) WAS IMPATIENT WITH THE RECRUIT
-------------------------------------------------------------------------

        FROM                    TO                    KEY
    0 MIN 55 SEC          1 MIN 38 SEC                4

***BEHAVIORS EXHIBITED THIS SEGMENT***

9) A BEHAVIOR NOT LISTED
-------------------------------------------------------------------------

        FROM                    TO                    KEY
    1 MIN 38 SEC          2 MIN 52 SEC                3

***BEHAVIORS EXHIBITED THIS SEGMENT***

2) EXPRESSED CONFIDENCE IN THE RECRUITS  ABILITIES
-------------------------------------------------------------------------

        FROM                    TO                    KEY
    2 MIN 52 SEC          5 MIN 00 SEC                4

***BEHAVIORS EXHIBITED THIS SEGMENT***

11) ENCOURAGED THE RECRUIT TO ASK QUESTIONS
-------------------------------------------------------------------------
EVALUATED SKILL IS 'CONSIDERATE'

OVERALL SKILL EFFECTIVENESS AVERAGE....3.500
CALCULATED EFFECTIVENESS AVERAGE.......3.490
```

Figure D-2. Method "B" Output

```
EVALUATED SKILL IS CLEAR

        FROM                    TO                    KEY
    0 MIN 0 SEC          0 MIN 37 SEC                 3

***BEHAVIORS EXHIBITED THIS SEGMENT***

14) WAS VAGUE
-------------------------------------------------------------
        FROM                    TO                    KEY
    0 MIN 37 SEC         2 MIN 15 SEC                 4

***BEHAVIORS EXHIBITED THIS SEGMENT***

10) GAVE SPECIFIC DETAILS
-------------------------------------------------------------
        FROM                    TO                    KEY
    2 MIN 15 SEC         3 MIN 44 SEC                 2

***BEHAVIORS EXHIBITED THIS SEGMENT***

13) GAVE REASONS FOR THE THINGS RECRUITS DO AT RTC
18) A BEHAVIOR NOT LISTED
-------------------------------------------------------------
        FROM                    TO                    KEY
    3 MIN 44 SEC         5 MIN 00 SEC                 4

***BEHAVIORS EXHIBITED THIS SEGMENT***

14) WAS VAGUE
-------------------------------------------------------------
EVALUATED SKILL IS "CLEAR"

OVERALL SKILL EFFECTIVENESS AVERAGE....4.000
CALCULATED EFFECTIVENESS AVERAGE.......3.400

JUDGE'S OVERALL EFFECTIVENESS AVERAGE.....4.000
```

Figure D-2. Method "B" Output (Contd)

```
        FROM                    TO
    0 MIN 0 SEC           0 MIN 33 SEC

***BEHAVIORS EXHIBITED THIS SEGMENT***

14) WAS VAGUE
9) A CONSIDERATE BEHAVIOR NOT LISTED
-------------------------------------------------------------

        FROM                    TO
    0 MIN 33 SEC           1 MIN 47 SEC

***BEHAVIORS EXHIBITED THIS SEGMENT***

10) GAVE SPECIFIC DETAILS
18) A CLEAR BEHAVIOR NOT LISTED
-------------------------------------------------------------

        FROM                    TO
    1 MIN 47 SEC           2 MIN 59 SEC

***BEHAVIORS EXHIBITED THIS SEGMENT***

5) SHOWED DISINTEREST IN THE RECRUIT'S FEELINGS
6) BELITTLED THE RECRUIT'S ABILITIES
-------------------------------------------------------------

        FROM                    TO
    2 MIN 59 SEC           5 MIN 00 SEC

***BEHAVIORS EXHIBITED THIS SEGMENT***

18) A CLEAR BEHAVIOR NOT LISTED
-------------------------------------------------------------
JUDGE'S OVERALL EFFECTIVENESS AVERAGE.....2.500

SKILL              AVERAGE

CONSIDERATE          2.000
CLEAR                3.000
```

Figure D-3. Method "C" Output

EVALUATED SKILL IS CLEAR

FROM	TO	KEY
0 MIN 0 SEC	1 MIN 51 SEC	4

BEHAVIORS EXHIBITED THIS SEGMENT

10) GAVE SPECIFIC DETAILS

FROM	TO	KEY
1 MIN 51 SEC	2 MIN 34 SEC	2

BEHAVIORS EXHIBITED THIS SEGMENT

14) WAS VAGUE
16) FAILED TO QUESTION THE RECRUITS FOR THEIR UNDERSTANDING

BEHAVIOR NOT LISTED

INCORRECTLY INFERS ATTITUDE FROM BEHAVIOR

FROM	TO	KEY
2 MIN 34 SEC	3 MIN 49 SEC	3

BEHAVIORS EXHIBITED THIS SEGMENT

10) GAVE SPECIFIC DETAILS
13) GAVE REASONS TO SHOW RELEVANCE OF WHAT WAS SAID

FROM	TO	KEY
3 MIN 49 SEC	5 MIN 00 SEC	3

BEHAVIORS EXHIBITED THIS SEGMENT

10) GAVE SPECIFIC DETAILS
13) GAVE REASONS TO SHOW RELEVANCE OF WHAT WAS SAID

BEHAVIOR NOT LISTED

NOT CLEAR IN QUESTIONING

SKILL	AVERAGE
CLEAR	3.000

CALCULATED 5 MINUTE VIDEOTAPE AVERAGE....2.940

Figure D-4. New Method Output

```
EVALUATED SKILL IS CONSIDERATE

        FROM                TO                  KEY
    0 MIN 0 SEC        1 MIN 02 SEC             2

***BEHAVIORS EXHIBITED THIS SEGMENT***

7) WAS IMPATIENT WITH THE RECRUIT
4) USED THE RECRUIT'S NAME
-------------------------------------------------------------

        FROM                TO                  KEY
    1 MIN 02 SEC       1 MIN 47 SEC             2

***BEHAVIORS EXHIBITED THIS SEGMENT***

6) BELITTLED THE RECRUIT'S ABILITIES
-------------------------------------------------------------

        FROM                TO                  KEY
    1 MIN 47 SEC       3 MIN 33 SEC             3

***BEHAVIORS EXHIBITED THIS SEGMENT***

10) ASKED THE RECRUIT HOW HE/SHE FELT ABOUT THE SITUATION

***BEHAVIOR NOT LISTED***

SEEMED DETACHED
-------------------------------------------------------------
-
        FROM                TO                  KEY
    3 MIN 33 SEC       5 MIN 00 SEC             2

***BEHAVIORS EXHIBITED THIS SEGMENT***

7) WAS IMPATIENT WITH THE RECRUIT

***BEHAVIOR NOT LISTED***

POOR LISTENING
-------------------------------------------------------------
--

SKILL           AVERAGE

CONSIDERATE      2.000

CALCULATED 5 MINUTE VIDEOTAPE AVERAGE.....2.120

JUDGE'S OVERALL EFFECTIVENESS AVERAGE.....2.700
```

Figure D-4. New Method Output (Contd)